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Taxonomic Paper

An updated checklist of the marine fish fauna of Redang Islands, Malaysia

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Abstract

Background

Redang Islands Marine Park consists of nine islands in the state of Terengganu, Malaysia. Redang Island is one of the largest off the east coast of Peninsular Malaysia, which is famous for its crystal-clear waters and white sandy beaches. The ichthyofauna of the Redang archipelago was surveyed by underwater visual observations between August 2016 and May 2018. Census data were compiled with existing records into the checklist of the marine fish of the Redang archipelago presented herein. A total of 314 species belonging to 51 families were recorded. The most speciose families (Pomacentridae, Labridae, *Scaridae*, Serranidae, Apogonidae, Carangidae, Gobiidae, Chaetodontidae, Lutjanidae, Nemipteridae and Siganidae) were also amongst the most speciose at the neighbouring Tioman archipelago (except Chaetodontidae). The coral fish diversity index value for the six families of coral reef fishes (Chaetodontidae, Pomacanthidae,

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Pomacentridae, Labridae, *Scaridae* and Acanthuridae) of the study sites was 132. We estimated that there were 427 coral reef fish species in the Redang archipelago. According to the IUCN Red List, eight species are Near Threatened (*Carcharhinus melanopterus*, *Chaetodon trifascialis*, *Choerodon schoenleinii*, *Epinephelus fuscoguttatus*, *E. polyphekadion*, *Plectropomus leopardus*, *Taeniura lymma* and *Triaenodon obesus*), eleven are Vulnerable (*Bolbometopon muricatum*, *Chaetodon trifasciatus, Chlorurus sordidus, Dascyllus trimaculatus, Epinephelus fuscoguttatus, E. polyphekadion, Halichoeres marginatus, Heniochus acuminatus, Nebrius ferrugineus, Neopomacentrus cyanomos* and *Plectropomus areolatus*) and three are Endangered (*Amphiprion clarkia*, *Cheilinus undulatus* and *Scarus ghobban*) in the Redang archipelago.

New information

Five species are new records for Malaysia (*Ctenogobiops mitodes*, *Epibulus brevis*, *Halichoeres erdmanni*, *H. richmondi* and *Scarus caudofasciatus*) and 25 species are newly recorded in the Redang archipelago.

Keywords

Coral Fish Diversity Index, fish diversity, ichthyofauna, new record species

Introduction

Redang archipelago is located about 45 km to the northeast of Kuala Terengganu and it has a surface area of about 2,484 ha, making it the largest of the nine islands within the Redang archipelago. The Redang archipelago comprises the islands of Redang, Pinang, Ling, Ekor Tebu, Kerengga Besar, Kerengga Kechil, Paku Besar, Paku Kechil and Lima (Fig. 1). The waters surrounding the Redang archipelago have been protected as a Marine Park under the Establishment of Marine Park Malaysia Order 1994 (Fisheries Act in 1995) Comley et al. 2004. It is famous for its crystal-clear waters, white sandy beaches and for being an important conservation site for sea turtles.

The coral reefs of the Redang Islands are amongst the best on the east coast of Malaysia and are generally in good condition. Reef Check Malaysia has established an annual survey programme in Redang to assess the health of coral reefs since 2011. In 2016, the study showed that the reefs around Redang Islands are considered to be in “Good” condition, with live coral cover of 55.42%, which is above the average of 43.71% for reefs in Malaysia (Reef Check Malaysia 2016). Nevertheless, only the indicator fish species were monitored, for example, butterflyfish (targeted for the aquarium trade), humphead wrasse (live-food fish), snapper and grouper (food fish) (Reef Check Malaysia 2017).

A total of 209 species and 92 genera from 40 families of fish were reported from Redang Islands Marine Park by Harborne et al. (2000) and 173 species and 86 genera from 40 families of coral reef fish species were reported from the park by Yusuf et al. (2001).